From: Separation Science <elearning.solutions@sepscience.com>
Sent: Thursday, December 22, 2011 1:17 PM
To: Hanchett, James (DPH)
Subject: Today in Separation Science - Latest Issue of HPLC Solutions

Dwell Differences

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John Dolan's
Update
HPLC Solutions

Separation Science e-Learning

Issue 85
Dwell Differences
For the next few issues of *HPLC Solutions* we're going to look at the effect that the dwell volume has on gradient chromatograms. The dwell volume comprises all the HPLC system volume between the point the solvents are mixed to the head of the column. For high-pressure-mixing systems, this includes the mixer, connecting tubing, and sample loop. For low-pressure-mixing systems, we have the same components plus the volume of the pump heads and check valves. In the next *HPLC Solutions* we'll consider how to measure dwell volume, but first, let's look at some of the problems that can be created when the dwell volume differs between two HPLC system.
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Issue 84
Peak Purity
A reader recently asked a question about the use of the peak-purity function of his diode-array UV detector (DAD). The question related to whether or not he could detect the presence of enantiomers, stereoisomers, diastereoisomers, or epimers with the peak-purity function.
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Issue 83
Method Limits
A reader recently emailed me a question that went something like this: "I'm using LC-MS/MS to analyze a biomolecule that I have isolated from tissue by LC-MS/MS. The lowest point on the calibration curve that I prepared is 0.1 µM. All the samples we've tested have concentrations above 0.1 µM and the signal-to-noise (S/N) is 33 at this concentration. I know that S/N = 10 is considered the lower limit of quantification (LLOQ) – does this mean that I have to extend my curve downward, even if I'll never see concentrations that low?"
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ASK THE DOCTOR
If you have an analytical question for John Dolan...

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